

IN THE CLAIMS:

1. – 37. (Cancelled)

38. (New) A slanted transmission hologram made by producing an interference pattern inside a polymer-dispersed liquid crystal material, the polymer-dispersed liquid crystal material comprising, before exposure:

- (a) a polymerizable monomer;
- (b) a liquid crystal;
- (c) a cross-linking monomer;
- (d) a coinitiator; and
- (e) a photoinitiator dye;

wherein the hologram has at least first and second plates and a plurality of planes of polymer channels having a first refractive index and polymer-dispersed liquid crystal channels having a second refractive index forming a grating therebetween having a front surface and a grating vector, wherein a direction of the grating vector is not perpendicular to the front surface of the grating.

39. (New) The slanted transmission hologram of claim 38, wherein the polymerizable monomer comprises dipentaerythritol hydroxypentaacrylate.

40. (New) The slanted transmission hologram of claim 38, wherein the polymer-dispersed liquid crystal material further comprises, before exposure, a surfactant.

41. (New) The slanted transmission hologram of claim 38, wherein:

- (a) the liquid crystal comprises 10-40% by total weight of the polymer-dispersed liquid crystal material;
- (b) the cross-linking monomer comprises 5-15% by total weight of the polymer-dispersed liquid crystal material;
- (c) the amount of coinitiator is 10^{-3} to 10^{-4} gram moles; and
- (d) the amount of photoinitiator dye is 10^{-5} to 10^{-6} gram moles.

42. (New) The slanted transmission hologram of 38, wherein;

- (a) the liquid crystal comprises 10-40% by total weight of the polymer-dispersed liquid crystal material;
- (b) the cross-linking monomer comprises 10-18% by total weight of the polymer-dispersed liquid crystal material;
- (c) the coinitiator comprises 2-3% by total weight of the polymer-dispersed liquid crystal material; and
- (d) the photoinitiator dye comprises 0.2-0.4% by total weight of the polymer-dispersed liquid crystal material.

43. (New) The slanted transmission hologram of claim 38, wherein the surfactant comprises about 6% by total weight of the polymer-dispersed liquid crystal material.

44. (New) The slanted transmission hologram of claim 38, wherein the surfactant comprises about 5-10% by total weight of the polymer-dispersed liquid crystal material.

45. (New) The slanted transmission hologram of claim 38, wherein the liquid crystal includes a mixture of cyano biphenyls.

46. (New) The slanted transmission hologram of claim 38, wherein the cross-linking monomer comprises N-vinylpyrrolidone.

47. (New) The slanted transmission hologram of claim 38, wherein the coinitiator comprises N-phenylglycine.

48. (New) The slanted transmission hologram of claim 38, wherein the photoinitiator dye comprises rose bengal ester.

49. (New) The slanted transmission hologram of claim 38, wherein the surfactant comprises octanic acid.

50. (New) A slanted reflection hologram made by producing an interference pattern inside a polymer-dispersed liquid crystal material, the polymer-dispersed liquid crystal material comprising, before exposure:

- (a) a polymerizable monomer;
- (b) a liquid crystal;
- (c) a cross-linking monomer;
- (d) a coinitiator; and

(e) a photoinitiator dye;

wherein the hologram has first and second plates and a plurality of alternating planes of polymer channels having a first refractive index and planes of polymer-dispersed liquid crystal channels having a second refractive index forming a grating therebetween having a front surface and a grating vector, wherein a direction of the grating vector is not perpendicular to the front surface of the grating and further wherein in a first state where no electric field is applied to the grating, a symmetry axis of the liquid crystal is oriented along the grating vector and in a second state where an electric field is applied to the grating, the symmetry axis of the liquid crystal is perpendicular to the front surface of the grating.

51. (New) The slanted reflection hologram of 50, wherein the polymerizable monomer comprises dipentarythritol hydroxypentaacrylate.

52. (New) The slanted reflection hologram of claim 50, wherein the polymer-dispersed liquid crystal material further comprises, before exposure, a surfactant.

53. (New) The slanted reflection hologram of claim 50, wherein:

- (a) the liquid crystal comprises 10-40% by total weight of the polymer-dispersed liquid crystal material;
- (b) the cross-linking monomer comprises 5-15% by total weight of the polymer-dispersed liquid crystal material;
- (c) the amount of coinitiator is 10^{-3} to 10^{-4} gram moles; and

(d) the amount of photoinitiator dye is 10^{-5} to 10^{-6} gram moles.

54. (New) The slanted reflection hologram of claim 50, wherein:

- (a) the liquid crystal comprises 10-40% by total weight of the polymer-dispersed liquid crystal material;
- (b) the cross-linking monomer comprises 10-18% by total weight of the polymer-dispersed liquid crystal material;
- (c) the coinitiator comprises 2-3% by total weight of the polymer-dispersed liquid crystal material; and
- (d) the photoinitiator dye comprises 0.2-0.4% by total weight of the polymer-dispersed liquid crystal material.

55. (New) The slanted reflection hologram of claim 50, wherein the surfactant comprises about 6% by total weight of the polymer-dispersed liquid crystal material.

56. (New) The slanted reflection hologram of claim 50, wherein the surfactant comprises about 5-10% total weight of the polymer-dispersed liquid crystal material.

57. (New) The slanted reflection hologram of claim 50, wherein the liquid crystal includes a mixture of cyano biphenyls.

58. (New) The slanted reflection hologram of claim 50, wherein the cross linking monomer comprises N-vinylpyrrolidone.

59. (New) The slanted reflection hologram of claim 50, wherein the coinitiator comprises N-phenylglycine.

60. (New) The slanted reflection hologram of claim 50, wherein the photoinitiator dye comprises rose bengal ester.

61. (New) The slanted reflection hologram of claim 50, wherein the surfactant comprises octanoic acid.